

**SATSA MUKHAPATRA-ANNUAL TECHNICAL ISSUE 24 : 2020**

**Published on February 16, 2020**

**PRESIDENT**

Sh. Goutam Kumar Bhowmik

**GENERAL SECRETARY**

Sh. Sujan Kumar Sen

**PATRONS**

Dr. Dharani Dhar Patra  
Vice-Chancellor, BCKV

Sh. Pradip Kumar Mazumdar  
Advisor to Hon'ble CM  
Agriculture & Allied Sectors, GOWB

Dr. Chirantan Chattopadhyay  
Vice-Chancellor, UBKV

**EDITORIAL BOARD**

**Editor**

Dr. Koushik Ghosh

**Members**

Sh. Goshto Nayban  
Dr. Indranil Das  
Dr. Malay Kr. Bhowmick

Dr. Samimul Islam  
Dr. Safiq Ul Alam  
Sh. Sanjoy Bhowmik

Dr. Deep Mandal  
Sh. Suman Sen

**Referees**

Prof. A. Paul, VB  
Dr. A. S. Hari Prasad, ICAR-IIRR  
Dr. B. Duary, VB  
Dr. H. Pathak, ICAR-NRRI  
Dr. P. K. Mani, BCKV

Prof. N. Mandal, BCKV  
Prof. P. C. Kole, VB  
Prof. R. K. Sarkar, CU  
Dr. S. Sarkar, ICAR-CRIJAF  
Dr. N. C. Sahu, SSKVK, RKM VE&RI

Dr. S. Bandyopadhyay, ISRO  
Prof. S. Das, BCKV  
Dr. S. Dutta, BCKV  
Dr. S. Singh, IRRI  
Prof. T. Dasgupta, RKM VE&RI

**Copyright © by the Publisher :**

All rights reserved. No part of this publication may be reproduced without permission from the Author(s) and the Publisher.

The views expressed by the authors in the papers / articles are their own. They do not necessarily reflect the views of the Association. Use of trade names, if any, by the authors does not constitute a recommendation by the SATSA, West Bengal.

Abbreviated form of *SATSA Mukhapatra-Annual Technical Issue: SATSA Mukh. Ann. Tech. Iss.*

**Published by :**

Sh. Goshto Nayban

Joint Secretary (Organisation), SATSA, W.B.

SATSA Bhawan, 8 D Krishna Laha Lane

Kolkata 700 012, West Bengal, India

E-mail: [satsa.wb@gmail.com](mailto:satsa.wb@gmail.com)

Website: [www.satsawb.org](http://www.satsawb.org)

**Printed at :** Roy Enterprises, 121 / 1 / 2 Monohar Pukur Road, Kolkata 700 026, West Bengal, India.

*An international journal rated by the National Academy of Agricultural Sciences (NAAS), documented in the full text repository of CAB International (CABI), abstracted in Indian Science Abstracts (NISCAIR) and the Indian Agricultural Sciences Abstracts (ICAR).*